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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,287

10/27/2003

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21295.65 (H5680US)

2780

29127 7590 05/09/2008

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EXAMINER

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ART UNIT

PAPER NUMBER

2872

MAIL DATE

DELIVERY MODE

05/09/2008

PAPER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/694,287  
Filing Date: October 27, 2003  
Appellant(s): RYGIEL, REINER

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Maria Eliseeva  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed April 3, 2008 appealing from the Office action mailed January 16, 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,411,434	EASTMAN	6-2002
4,621,911	LANNI	11-1986
2002/0160400	LAKOWICZ	10-2002
3,720,924	AAGARD	3-1973

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5 and 7-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Eastman (US 6,411,434) in view of Lannai (US 4,621,911).

Regarding claim 1, Eastman teaches a confocal microscope with a sample carrier (abstract) comprising a first coverslip (26) and a second coverslip (16) immovably secured in a frame and forming a cavity between them (col. 4 line 61 – col. 5 line 5). Eastman further teaches a medium uniformly filling in the cavity (col. 7 lines 32-37; Fig. 7). Although Eastman is silent as to the medium having approximately the same refractive index of the first and second coverslips, the refractive index of the Eastman medium must approximately match the refractive indices of the first and second coverslips because a significant difference between the refractive indices would cause reflection of light at the interface of the medium and the coverslip. Eastman lacks reference to the second coverslip including a mirror surrounding the sample region. Lannai teaches the use of a mirror (76) surrounding a sample region (Fig. 7). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Eastman invention include the mirror of the Lannai invention for the purpose of efficiently passing the emitted fluorescence of the specimen (Lannai col. 9 lines 9-12).

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Regarding claim 2, Eastman teaches the substrate of the coverslips being anisotropic or isotropic materials of approximately the same refractive index and that are transparent to the wavelengths used (Fig. 11). The coverslips must inherently be either anisotropic or isotropic.

Regarding claim 4, Eastman reference teaches the use of a sample as thin as possible (col. 2 lines 25-35).

Regarding claim 5, Eastman teaches the invention as claimed but lacks reference to the claimed wavelengths. Lannai teaches the mirror on the second coverslip reflective for light in a wavelength range of 300-1300 nm (col. 5 lines 58-60). Lannai teaches the mirror operating at a wavelength of 365 nm. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Eastman invention include the mirror of the Lannai invention for the purpose of efficiently passing the emitted fluorescence of the specimen (Lannai col. 9 lines 9-12).

Regarding claim 7, Eastman teaches the invention as claimed but lacks reference to a dielectric mirror coating. Lannai teaches the mirror is made of a dielectric coating (claim 18). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Eastman invention include the mirror of the Lannai invention for the purpose of efficiently passing the emitted fluorescence of the specimen (Lannai col. 9 lines 9-12).

Regarding claims 8 and 10, Eastman teaches the use of a circular sample region (Fig. 1).

Regarding claim 9, Eastman teaches the use of an adhesive to secure portions of the coverslip together (col. 6 lines 40-50).

Regarding claims 11 and 12, Eastman teaches the invention as claimed but lacks reference to the claimed shape. It would have been obvious to one of ordinary skill in the art at

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the time the invention was made to have the shape of the coverslips be square, since it has been held that a mere change in shape of an element is generally recognized as being within the level of ordinary skill in art when the change in shape is not significant to the function of the combination. Further, one would have been motivated to select the shape of a square for the purpose of allowing the coverslips to be more easily held in place for examination.

Regarding claim 13, Eastman teaches the invention as claimed but lacks reference to the use of an interferometer fluorescence microscope. Lannai teaches the microscope is an interferometric fluorescence microscope (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Eastman reference used as an interferometric fluorescence microscope for the purpose of determining the emission spectrum of a sample.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eastman (US 6,411,434) in view of Lannai (US 4,621,911) as applied to claim 1 above, and further in view of Lakowicz (US 2002/0160400).

Eastman in combination with Lannai teaches the invention as claimed but lacks reference to the use of quartz and glycerol. Lakowicz teaches the use of quartz as a means to create the coverslips (Fig. 1A). Lakowicz teaches the use of glycerol as a means to fill the cavity of a microscope slide (para. 0092). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Eastman in combination with Lannai invention include the quartz coverslips and glycerol of Lakowicz for the purpose of efficiently transmitting light through the coverslips and protecting the sample.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eastman (US 6,411,434) in view of Lannai (US 4,621,911) as applied to claim 1 above, and further in view of Aagard (US 3,720,924).

Eastman in combination with Lannai teaches the invention as claimed including the use of a metal mirror (para. 0019) but lacks reference to the use of aluminum in the mirror. Aagard teaches the use of aluminum to create a mirror in a microscope (col. 9 lines 60-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Eastman in combination with Lannai mirror made of aluminum as taught by Aagard for the purpose of reflecting light in the visible wavelength range.

#### **(10) Response to Argument**

Applicant argues Eastman does not disclose a first and second coverslip immovably secured in a frame. Applicant states that the “pliable membrane” (16) of Eastman does not constitute immovably secured. The definition of immovable is incapable of being moved. The inability to be moved is not the same as being rigid. The applicant’s argument that the ability of the coverslip of Eastman to flex prevents satisfaction of the claim language is further unpersuasive because the applicant’s coverslip will inherently have some ability to flex. All materials include a Young’s Modulus which is a measure of a material to elastically deform. While some materials may only be able to flex a minute amount, such a limitation is not present



in the claim language and therefore not required by the prior art to properly rejection the claimed limitations.

Applicant argues the cavity of Eastman is not uniformly filled. The claim language states "a cavity between" the first and second coverslips. The claim language does not require the cavity be the entire space between the two coverslips. The claim language further does not require the cavity be entirely filled only "uniformly" filled. The examiner interprets the claim language to mean a defined space between the two coverslips is filled with an evenly with a medium. Eastman shows (Fig. 7) a fluid filling a defined space between the two coverslips. A fluid by definition will conform to the boundaries of its container and seek its own level, thus filling a space uniformly. Therefore the examiner believes the rejection is proper.

Applicant argues there is no need for the medium in Eastman to have the approximately the same refractive index as the coverslips. If the medium does not have approximately the same refractive index as the coverslips a significant amount of light will be reflected at the medium/coverslip interfaces which will cause glare and obscure the observer's vision of the sample defeating the purpose of a microscope. For the microscope to function properly the examiner believes one of ordinary skill in the art would recognize the medium must have "approximately" the same refractive indices as the two coverslips.

Applicant argues the prior art fails to teach or suggest a mirror coated zone. Eastman shows the second coverslips includes a sample region and an area around the sample (Fig. 1A). Lanni teaches surrounding a sample region of a coverslip with a mirrored area (Fig. 7). Starting at the bottom to the top of Fig. 7 of Lanni the first coverslip (88) is made of glass the second

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coverslip (76) is made of a mirrored substrate and a sample region (50) holds the sample. Fig. 7 of Lanni clearly shows reflection of incident light (78) from at the mirrored substrate.

Applicant again argues “sealingly engaged” is not equivalent to “immovable.” The examiner’s answer to this argument is discussed above.

Applicant repeats the argument regarding uniformly filling the cavity. The examiner’s answer to this argument is discussed above.

Applicant argues the terms “anisotropic” and “isotropic” are not present in the Eastman reference. The examiner agrees. However, the material in Eastman is inherently either anisotropic or isotropic. A material must be either isotropic or not isotropic. If the material is not isotropic it is termed, anisotropic. The claim language states "made of anisotropic or isotropic material." Inherently a material must be one or the other and the claim language allows for either to satisfy the claim limitations.

Applicant argues Eastman fails to teach the claimed distance. The examiner agrees, however, Eastman teaches a desire to have the coverslips as close together as the sample will allow. Therefore the Eastman references suggests a small a distance as possible and one of ordinary skill in the art would recognize a sample can be made to be no greater than 50 microns.

Applicant argues the motivation to combine the references in the rejection of claim 5 is not the same as the present invention. Proper motivation does not have to be the same as the applicant's motivation. So long as one of ordinary skill will recognize a rational basis for combining the two references the combination is proper.

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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Joshua L Pritchett/  
Primary Examiner, Art Unit 2872

Conferees:

Stephone B Allen

/S. B. A./  
Supervisory Patent Examiner  
Art Unit 2872

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